We investigate the highly incoherent regime of hole-doped two-dimensional Mott-Hubbard insulators at moderately small doping $\delta$ and temperatures 0.05 J, where J is the exchange coupling. Within an extended dynamical mean field theory of the t-J model and a generalized non-crossing approximation we calculate the single-particle spectral function, the dynamical susceptibility, thermodynamic and transport quantities[1]. Short-ranged antiferromagnetic fluctuations lead to strongly incoherent single-particle dynamics, large entropy, and high electrical resistivity. At low doping a pseudogap is found to open up in both the single-particle and the spin excitation spectra, leading to a decrease in entropy and resistivity. The low temperature Hall coefficient changes sign to positive values and increases as $1/(\delta)$ for decreasing doping. Results of a 2x2 (DCA) cluster calculation give a rough estimate of the momentum dependence of spectral functions. A proof is presented showing that DCA is the only causal translation invariant cluster approximation.